THE
VETERINARY RECORD.

The Official Journal of the National Veterinary Medical Association of Great Britain and Ireland, Limited.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S., 1888.

No. 13. MARCH 29, 1924. VOL. 4.

Analogies between Influenza of Horses and Influenza of Man.*

By Lieut.-Colonel A. J. WILLIAMS, D.S.O., F.R.C.V.S., R.A.V.C.

Mr. President and Gentlemen,—

I appreciate the honour you have accorded me in inviting me to address your section, and I feel a special pleasure in doing so, being keenly interested in the question of collaboration between the two professions During my service in the various parts of the world, occasions have arisen in which such co-operation has been beneficial on both sides, and, judging by recent events, it will be more in evidence in the future, to the mutual benefit of our professions.

In the time at my disposal I can only deal briefly with the subject, and will endeavour to bring forward the salient features from the comparative aspect.

Equine influenza may be defined as an acute febrile, contagious disease, which manifests itself as a general blood infection, especially by catarrhal inflammation of the mucous membranes, inflammatory swellings of the subcutis and tendons, and a tendency to localisation on the respiratory or gastro-intestinal mucosa.

Although historical records point to equine epizootics of this nature having occurred in various parts of the world from ancient times, the nature of the primary infective agent of equine influenza remains to be discovered. Titus Livius hints of a Sicilian equine epizootic of this kind in 412 B.C., and accounts of similar outbreaks are given by Virgil, Columella, Absyrtus and Vegetius. From 1648, when horses of the French army in Germany suffered severely, up to recent times, frequent outbreaks have occurred in various parts of the world with serious losses. The affection existed in the large cities in a mild form in ordinary years, breaking out without obvious cause in certain years into an advancing epizootic which swept the whole continent. Such were the great outbreaks in Europe in 1881 to 1883, and in America in 1872 to 1873 and 1900 to 1901.

In the great American epizootic of 1872 to 1873, which prostrated 1,000,000 equines in the United States for one to two weeks, and paralysed the agricultural and commercial activities of the continent for that period, the affection advanced gradually from Toronto over the whole continent of North America, where horses were kept, taking ten months to accomplish this. The condition spread with great rapidity along the principal lines of communication, namely, the railways, canals and stage coach routes. The spread was more rapid towards the east than the west, the former being in the direction of the main equine traffic. The route of a travelling circus was traced by the trail of centres infected. The island of Vancouver was not infected, as a strict quarantine on imported horses and mules was imposed. Prince Edward Island also escaped invasion, as it was ice-bound, and shut off from all traffic with the mainland. Cuba was infected by American horses landed at Havana, but no other West Indian island was attacked. The southerly spread of the disease was finally arrested at Central America, where horses were scarce and horse traffic practically unknown. The affection failed to traverse any serious gap over which there was no movement of equine animals.

It is interesting to compare this historical record and the history of an outbreak in India, with which I especially wish to deal this evening, with the historical records of epidemics of human influenza.

With regard to the relationship between influenza in horses and influenza in man :—

During epidemics of human influenza in 1758 and 1775, medical men noted that many horses were affected with colds and coughs. Again, prior to the great epidemic in England, 1889-1890, influenza prevailed among horses, and Dr. E. Symes Thompson was so strongly impressed with the intimate connection between equine and human influenza that in December, 1889, he wrote to the *British Medical Journal* calling attention to the prevalence of the equine epizootic, and suggested that it would not improbably prove the forerunner of an outbreak in man, but no such relationship has been established. During the American epizootic in 1872-1873 there was no corresponding epidemic among human beings, and in 1889-1890 persons dealing with horses were not specially affected, whilst in certain places where influenza prevailed epidemically no similar disease among horses occurred. My experience has been that no cases of influenza have developed among men attending cases of equine influenza, and there appears to be little doubt that they are essentially distinct diseases. The difficulty of producing human influenza in animals by inoculation supports this view.

CAUSATION.—Available evidence is in favour of a filter-passing organism being the prime factor responsible for the condition, and that its presence favours the invasion and infection of the body with other bacteria such as streptococci, diplococci, bi-polar

* Read before the Section of Epidemiology and State Medicine of the Royal Society of Medicine, on Friday, 22nd February, 1924.

bacilli, etc., which give rise to the various types of the disease and set up the numerous complications observed. Pfeiffer's bacillus is not present in cases of equine influenza. Available evidence appears to be in support of the view that human influenza is due primarily to a filtrable virus, and announcements that the germ has been isolated have been made from time to time, but it has not yet been fully established that the disease is due to an organism of this type. Until the primary infective agent has been discovered, the prophylaxis and cure of such diseases cannot be carried out on a satisfactory basis.

I will now pass on to the outbreak in India, which I had special facilities for observing. This outbreak first appeared in Calcutta in the beginning of April, 1915, when there was an enormous influx of remounts from Australia. Large numbers were constantly arriving, and were despatched as quickly as possible to various depots and mounted units all over India, as it was impossible to accommodate them in Calcutta. The disease spread with great rapidity wherever horses from Calcutta had been sent, from Calcutta in the East to Peshawar in the North, about 1,500 miles, to Loralai in the North-west, about 1,250 miles, and to Bangalore in the South, about 1,000 miles. From July onwards the epizootic gradually died down, and was practically over by the end of September. During these six months 16,921 cases were recorded, with 893 deaths.

At this time I was responsible for the veterinary administration of an area extending from headquarters at Poona to Loralai in the north-west, Madras in the south, and Secunderabad in the Deccan including the ports of embarkation, Bombay and Karachi. The distance from Loralai in the north-west to Madras in the south is about 1,500 miles. Of the seven principal stations in this area, animals from Calcutta were found to be affected on arrival at five; at one the disease appeared a week after their arrival, and animals at the remaining station were infected through the medium of tonga ponies travelling from an infected centre 55 miles distant. The first cases observed at Calcutta were of a mild type, in which the distinctive features of the disease were not exhibited, and they were diagnosed as ordinary cases of ship's catarrh. Owing to the extremely susceptible condition of the majority of the animals, due to their lowered vitality after completing a long sea voyage, the disease spread like wildfire, and in so doing acquired a markedly increased degree of virulence. The disease was first suspected at Calcutta on the 3rd April, but was not definitely diagnosed until the 7th April. By this time cases had been found in a train-load of horses from Calcutta on arrival at a remount depot in the Punjab. The effect of a long and trying train journey on animals already enfeebled after a long sea voyage is well known, and it was, therefore, not surprising to find that deaths occurred during the journey. Some horses died immediately on de-training, while others, suffering from a very virulent form of the disease, tottered along almost pulseless and in a dying state.

Spread of the Disease.—The following examples of how the disease was spread are of interest:—

One hundred horses from Calcutta arrived at a certain station on the 14th April, and were immediately isolated three miles away from all other animals. A few cases of influenza, which were of a mild type and soon recovered, developed within the course of a few days. The whole batch was, however, kept in isolation for two months after the last case had occurred, and was then ordered to move to the regimental lines. Up to this time the regiment had been quite free of the disease. When the batch was being marched to the lines, one horse broke loose and ran into an isolation camp containing influenza cases. The Indian N.C.O. in charge of the party sent for the horse, but he did not report the incident, with the result that the whole batch, including the runaway horse, was taken into the lines where these animals were picketed apart from the regimental horses. Two or three days later this horse developed the disease, also the in-contacts. The whole batch was immediately moved out again to a camp six miles away; but the damage was done, and shortly after this, cases appeared among the horses of the regiment and the disease gradually spread throughout them.

In another station the disease spread to various units, probably through the medium of orderlies' horses meeting at some centre such as the headquarter staff offices; and it is interesting to note that it spread along the main road from one end of the station to another, but one battery whose lines were in an isolated position, away from the other batteries, and off the main road, escaped. Direct transmission appears to be the chief method of spread in human beings and equines, and the usual mode of infection is by direct contact with those ill of the disease.

Types of Horses Affected, their Recent History, Condition, Age, Sex and Breed.

All types and breeds suffered, the initial outbreak being among the newly-landed, which were unacclimatised, many in poor condition, susceptible to the disease, and with no power of resistance to an attack. Animals of all ages were attacked; in some cases very old animals were severely affected; aged horses exposed to infection when unacclimatised and in soft condition showed the same susceptibility to the disease as the young animals. Condition and acclimatisation were the chief factors determining the course of the disease; acclimatised horses in good hard condition developed the disease in a much milder form than young unfit horses. Country-bred horses were not so severely affected as the imported horses.

Mules showed a considerable resistance to the disease; the percentage affected was low, the type of the disease mild, and the mortality almost nil, only one death occurred in 302 cases.

Sex did not appear to have any effect on the condition. Male and female animals were affected to the same extent, but in very severe cases, with great loss of condition, mares took longer to recover.

Types of the Disease Observed, Symptoms, Course, Incubation Period, Mortality, and Post-Mortem Appearances.

In every batch of remounts the disease was a typical epizootic cellulitis of varying degree, and the condition spread rapidly throughout the batch. The first few cases were often extremely acute, death occurring sometimes in a few hours, due to syncope from toxæmia. During its spread the virulence appeared to decrease, affecting horses in varying stages of condition and acclimatisation in varying degrees, the fit acclimatised animal suffering least.

Catarrhal symptoms were present in all outbreaks, and in the case of seasoned horses they were often the principal symptoms observed. In horses which were in good condition, and hard work, the disease was often so mild that the only symptoms were a rise of temperature for one to three days, slight œdema of the eyelids with lachrymation and anorexia for two to three days. In such cases there was no loss of condition. In severe cases of the epizootic cellulitis form in recently-landed horses, the symptoms were typical of the disease. There was an initial temperature of 105° to 106° F., marked prostration, extensive effusion causing great swelling of the dependent parts, and in some cases the head was so badly affected as to interfere with respiration. There was swelling of the eyelids, with lachrymation and effusion into the anterior chamber.

In favourable cases there was a marked improvement in four or five days, the temperature falling gradually and the normal being reached in about ten days. In complicated cases, pyrexia existed for fourteen to twenty-one days. As a rule an early improvement was followed by a rapid return to the normal, except that in cases where extensive effusion occurred, œdema of the legs remained, especially in the fetlock region of the hind legs, for some considerable time. The aged regimental horses were severely attacked, but the temperature dropped to normal in five to six days; the effusions were not so extensive, disappeared quicker than in remounts, and the period of convalescence was shorter.

Pneumonic complications in very bad cases of epizootic cellulitis were so extensive and severe that the condition was hopeless and the termination rapidly fatal. Hydro-thorax with hydro-pericardium caused sudden deaths from syncope. In cases not so rapidly fatal, extensive pleuro-pneumonic lesions with gangrene of the lungs reduced the animals to a living skeleton in a few days, necessitating their destruction. In cases dying in a few hours from toxæmia the most striking lesion was the enormous effusion into the tissues, which were bathed in serum. Among one batch of horses the first case was one of this kind; on removal of the ear for bacteriological examination as a precautionary measure owing to the symptoms simulating acute anthrax, serum poured from the cut surface.

Compared with human influenza, there is the same sudden onset, short period of incubation, many symptomatic phases, prevalence of catarrhal symptoms, similar effects on the heart, blood, respiratory tract, and digestive system. There is no comparative immunity from complications among young animals as I understand is the case in influenza in children.

Mortality.—In one batch of 88 remounts there were 19 deaths and destructions, a mortality of over 20 per cent., but this was exceptional. The average was from about 1 per cent. in acclimatised horses to 10 per cent. in remounts.

The mortality amongst horses, mules and donkeys respectively was as follows:—

	Cases.	Deaths.	Percentage.
Horses	16,045	886	5·52
Mules	804	5	·62
Donkeys	72	2	2·8
Totals	16,921	893	5·28

Period of Incubation.—The period of incubation was from three to five or seven days, but occasionally it extended to ten days.

Hygienic Measures.—Difficulties were experienced in checking the spread of infection, even when immediate isolation was enforced and all preventive measures were adopted. The only satisfactory method of control was complete isolation in the earliest stage of the outbreak of the sick and in-contact animals with their attendants, and when this was carried out in a thorough manner the number of cases was limited, but where half measures were instituted the rapid spread of the disease was checked, but not completely controlled. The best results were obtained by moving the unit out of the permanent lines and treating the cases in the open, utilising any shade available.

Infection spreads far less readily in the open than in stables, and evacuation of the lines allowed of thorough measures of disinfection being carried out, so that they were ready for occupation when the disease had subsided. In one infected regiment the whole of the animals were sent into a segregation camp three miles from cantonments. After four days in camp no fresh cases occurred. In another regiment so situated that it was not possible to move them into a segregation camp, affected animals were removed from the lines and isolated, but the disease did not disappear from the unit for over three months.

Treatment.

The chief factor in the successful treatment of this disease is good nursing, and in this respect the provision of a suitable diet is one of the most important features. Fresh air, shade and a plentiful supply of water is essential.

With regard to the administration of drugs, the general opinion was that the simplest were the best, and those capable of being given in the drinking water were most suitable. In the majority of cases salines were given in this way, but animals affected with the catarrhal form were also given electuary and medicated inhalations. Drenching was never practised. In cases with hyper-pyrexia a combina-

tion of quinine-sulphate, sodium salicylate and ammonium carbonate, gave excellent results. This treatment was usually only necessary for a few days.

In severe cases with extensive effusion potassium iodide in the early stages, to assist absorption and prevent permanent thickening of the limbs, was found beneficial. In cases showing signs of collapse, hypodermic injections of strychnine proved very useful. The intravenous injection of normal saline solution was tried in some cases without much effect. Atoxyl gave a fair amount of success, but not sufficient to warrant its general adoption. At one remount depot the intravenous injection of quinine acid-hydrobromide (30 grains) gave excellent results.

The importance of a suitable diet has already been mentioned. In mild cases, where the appetite was retained, little change was made in the diet, but in severe cases where the appetite was capricious and animals refused all grain, an unlimited supply of green lucerne was provided where possible, and was readily eaten. Twenty severe cases which showed great prostration refused all food, and some too weak to stand were given milk, eggs and alcohol. Three of these animals died, but the remainder recovered and were undoubtedly saved by this treatment.

The grouping of cases into four classes, viz., severe, mild, convalescent, and in-contact, was found to be extremely helpful. This procedure allowed thorough supervision of treatment, nursing, exercise, etc., the cases being moved into various groups according to their condition. Nothing short of the strictest isolation prevented the spread of the disease, and it appeared that, to be effective, segregation camps should be at least a mile from any unit. There are so many loopholes in connection with prevention of spread in this disease that it was unusual to find it confined to any one area once the disease had obtained a footing. In order to guard against spread of the disease by recovered animals acting as carriers, no movements were allowed until six to eight weeks had elapsed from the time animals became convalescent.

As in human influenza, the treatment is expectant, palliative and symptomatic. The importance of nursing and good general hygiene is the same in dealing with the disease in equines as in human beings. The dietetics which apply to any febrile disease apply equally to human influenza, and the same holds good in equine influenza. There is no specific for the condition, nor up to the present is there any means of securing immunity against infection.

With regard to vaccine treatment, it is stated that little can be said regarding its efficacy either as a prophylactic or curative agent in human influenza; it is principally of use in controlling the secondary infections; and the same applies in equine influenza. Prophylactic measures are similar, strict isolation, the prevention of spread of infection through infected discharges, and disinfection. Law states that, "during the great outbreak of 1872-1873, when germ-potency and all but universal susceptibility were so remarkable, effective quarantine showed the most signal success in the resulting immunity of Vancouver Island, Prince Edward Island, the whole of the West Indies, except Cuba, Central and South America, and an isolated district in Mexico."

Disinfection.—In paddocks and open standings the action of the powerful Indian sun undoubtedly had a far-reaching effect. Fire was used wherever possible. Standings, mangers, troughs, buckets, etc., were all thoroughly disinfected in this manner, *i.e.*, by burning litter or by the use of a blow-lamp. In segregation camps burning litter over the standings and incineration of the manure were preventive measures adopted for the destruction of the contagium. Disinfection by fire was found to be both effective and inexpensive; there was no necessity to dig up the standings and to carry out a more expensive method of disinfection. When horses were being constantly railed over the country, the importance of thorough disinfection of the railway trucks and watering troughs at halting places will be realised. Clothing, grooming kit, etc., was disinfected in a solution of cresol or perchloride of mercury.

Duration of the Disease and Period of Convalescence.—In newly-imported horses the duration of the disease was about 14 to 21 days; in acclimatised, conditioned horses about a week. In the former the period of convalescence was from 14 to 21 days; in the latter 10 to 14 days. Convalescence could not be hurried, and it took months of care and feeding to get debilitated newly-imported horses into condition. Running loose in paddocks, with a plentiful supply of water and green food, and shade if possible, were the best conditions for bringing convalescents to a state fit for quiet work. The time the disease existed in units varied from six weeks to over three months.

Susceptibility of Types and Immunity conferred by an Attack.—All classes of animals were equally susceptible. The immunity conferred by an attack appears to be strong. With one exception, reports from all veterinary officers were unanimous in stating that no second attack was observed. In the one exception it was stated that certain horses which had been discharged as cured were again affected with the disease six weeks afterwards. Many horses appeared to have considerable natural immunity, and although it is doubtful whether any second infection occurred after a complete recovery from an attack, in a small percentage of cases relapses occurred during the early convalescent period. It is interesting to compare this with immunity in human influenza, where there is a short-lived immunity in some cases, but usually an attack seems to predispose to a second or third visitation of the disease.

Complications and Sequelæ.—Pneumonic complications were the chief cause of the mortality. A few cases of very severe cellulitis were seen with gelatinous degeneration of the tissues in the fetlock and coronary region, and occasional cases of pyæmia, synovitis or arthritis, with permanently enlarged joints, were also observed.

The chief sequelæ were lymphangitis (usually of one hind limb), chronic debility, laminitis, broken wind,

(*Continued at foot of next column.*)

Some Preliminary Observations on Hæmolysis by Intravenous Injection of Distilled Water.

By H. C. Ganguly, of the Raymond Research Laboratory, Bengal Veterinary College, Calcutta.

Introduction.—Some time ago, while studying the effects of the various bacteriological dyestuffs having germicidal properties in cases of protozoal diseases in equines, upon the lines of Professor Mesnil, of the Pasteur Institute, of Paris, who carried out similar experiments on mice, it appeared desirable to ascertain whether hæmolysis as a result of injection of distilled water, had any serious and prejudicial bearing on the health of the animals, because it was observed that some of those agents intended to be used in the experiment were precipitated with the physiological solution of salt. It is generally known that hæmolytics act in different ways. The true hæmolytic agents, other than distilled water such as glycerine, ether, chloroform, phenylhydrazin and the salts of biliary acids—act by dissolving the stroma of the erythrocytes and setting free the hæmoglobin.

The transfusion of heterogenous blood (blood from a different species of animal) also causes disintegration of red cells with the solution of hæmoglobin.

Drs. Paton and Goodall carried out a series of experiments in the laboratory of the Royal College of Physicians of Edinburgh on this subject on small laboratory rodents. Their researches indicate that the injection of distilled water leads to hæmolysis and recovery in those animals and that of phenylhydrazin results in destruction of leucocytes and erythrocytes and deposition of pigment in the spleen, etc. The demonstration of hæmolysis by transfusion of heterogenous blood dates from the discovery of Balfonte and others in 1898. They injected a large amount of rabbit blood into the peritoneum of horses, and found the serum of the horse became highly toxic for the rabbit.

According to Hunter, there exist other bodies which do not act directly upon the cellular elements, but are supposed to stimulate a hæmolytic action by the spleen.

It has been observed that when a quantity of blood is placed in distilled water, the hæmoglobin undergoes solution and separation from erythrocytes, but when blood is placed in saline solution of a certain concentration the red cells retain their hæmoglobin. These changes of erythrocytes result from the laws of osmosis that when two solutions of different concentration are separated by their animal membrane, the solution passes through the membrane until the quantity of salt in each is equal. The force which leads to this interchange is called "osmotic tension," and two fluids with equal contents of salts are said to be "isotonic." It has been found that 0·9 per cent. aqueous solution of sodium chloride is isotonic with mammalian blood-serum. The results of the experiments of Bamberger indicate that with isotonic solution the hæmoglobin is not discharged from the red cells. Fluids are likewise said to be "hypertonic" or "hypotonic" when they contain a greater or lesser amount of diffusible salt than other fluids and are capable of drawing water from or yielding it to such fluids according to the laws of osmosis. According to the strength of the solution the sizes of the corpuscles vary. Isotonic solution does not affect the size of the red cells. Hypertonic diminish, while hypotonic increase their size. So when water devoid of its normal saline elements is placed in a quantity of blood, some of the salts of the blood diffuse out through the porous cell-membrane and water passes in, causing escape of hæmoglobin.

Procedure. On the score of economy, young and vigorous animals could not be procured, but five ponies in rather good condition were obtained and inoculated with a large quantity of distilled water as per details annexed. They had no organic disease apparently, but were more or less old, and naturally the tissues had been losing their natural vitality and undergoing to a certain degree the slow process of senile atrophy.

Blood counts and smears were made two days before the injection and once a day during the course of experiment. Blood was generally drawn from the jugular vein. Counts were made by Thoma Zeiss' pipette, using Toison's fluid as a colouring medium. Smears were generally stained by Giemsa but occasionally some modifications of Romanowsky were used.

The estimation of the specific gravity of blood was made by Hammerchlag's method, which depends upon the physical law that a body which remains suspended in the fluid must have the same specific gravity as that of the fluid. Though the result obtained by this process is questionable, it is sufficiently reliable for clinical purposes. The percentage of hæmoglobin was calculated by Feichel's hæmoglobinometer, the result being tested by Gower's hæmoglobinometer.

(*Continued from previous page.*)

and fatty degeneration of the heart, with hypertrophy and dilatation. In some cases destroyed for chronic debility old pleuritic lesions were found. Paraplegia and roaring were also noted. Purpura hæmorrhagica, pericarditis, endocarditis, iritis, enteritis, paraphymosis, abortion, and shedding of the hoof were among the complications met with. An interesting fact generally observed was that nearly all wounds seen on animals affected with the disease became, to a varying extent, the seat of acute cellulitis, causing severe pain. The wounds healed very much more slowly than in healthy animals, and thus often seriously prolonged the period of convalescence.

Taking into consideration the number of animals affected, the deaths and destructions on account of sequelæ of an incurable nature were small.

References.

Report on the Outbreak of Influenza among Military Animals in India, 1915, published by the Quartermaster-General's Branch, Army Headquarters, India, 1916.

Law's *Veterinary Medicine*.

Encyclopædia Medica, second edition, volume 6.

As regards the distilled water, it was prepared in this College laboratory with every possible precaution, and was found quite satisfactory.

The general rôle of pathological changes that follow after injection of a large quantity of distilled water is of interest. By the action of distilled water the hæmoglobin undergoes solution and separation from erythrocytes. The colouring matter thus freed gives the plasma or serum a diffuse red colour. A portion of the hæmoglobin is taken up by the liver and transformed into biliary pigments, and the injured blood corpuscles are to be found in the liver and spleen and in the red marrow, these organs sometimes becoming considerably swollen and excessive bile formation taking place. The bulk of the liberated hæmoglobin is removed by the kidneys, throwing additional work on these organs and giving a blood-red to brown discolourisation to the urine (hæmoglobinuria). There also co-exist with this group of blood changes serious diseases (anasarcous swellings, irregular pulse, debility, etc.) of the subject; the hæmoglobin freed from the cells and altered in its constitution is no longer capable of taking up and giving off oxygen (Kreh), and the disintegrating blood cells give origin to substances which may cause coagulation in the vessels, occlusion of capillaries and serious lesions of renal epithelial cells (Kitt).

APPENDICES.

Case 1.—Subject, a bay country-bred gelding, aged about 15 years and about 700lbs. body-weight, in rather good condition. This animal was injected with 1,000 c.c. (one litre) of distilled water, and next day the same dose was repeated. On the third day the animal appeared to be very debilitated, so no further recourse to it could be had. On the fourth day he again received 500 c.c. of distilled water intravenously, but died the next morning.

Post-mortem appearances in brief:—The body was thin. The muscles and other tissues were very anæmic. Blood was very watery and pale, and coagulated imperfectly. The jugular veins showed thrombosis in certain parts. A large tumour was detected in the liver. No pigments were observed in the liver, spleen or kidney.

Case 2.—Subject, a bay country-bred gelding, aged about same as above. Body-weight about 750lbs. He was in rather good condition. Received 180 c.c. of distilled water in both jugulars, in one dose, for a period of seven days, *i.e.*, 1,260 c.c. were injected in all. No clinical or untoward symptoms were noticed in this case.

Case 3.—Subject, a grey country-bred gelding, aged about 14 years. Body-weight 850lbs.; in rather good condition. Received 407 c.c. of distilled water in both the jugulars alternately, in one dose, for a period of seven days, *i.e.*, he received altogether 2,849 c.c. No symptoms of ill-health were observed.

Case 4.—Subject, a bay country-bred gelding, aged about 18 years. Body-weight about 850lbs.; in fair condition. He was injected with 500 c.c. of distilled water in one dose into the jugular consecutively for seven days; that is to say, he got 3,500 c.c. in all. No untoward symptoms of ill-health of any sort were noticed in this case.

Case 5.—Subject, a grey country-bred gelding, aged about 17 years. Body-weight about 1,000lbs., and was in good condition. He was injected with one litre (1,000 c.c.) of distilled water in one dose daily for a period of seven days, *i.e.*, 7,000 c.c. in all. On the third day this patient developed hæmoglobinuria and petechiæ on the schneiderian membrane; emaciation was marked. The hæmoglobinuria lasted for about seven days after the cessation of the last injection. Besides these no other clinical symptoms were manifested by this animal.

INFERENCE.—From the foregoing notes, it might safely be inferred that fairly large quantities of distilled water may without harm be injected into average-sized, healthy horses. It would also appear that daily injections of quantities above half a litre (500 c.c.) or so might produce rather alarming symptoms of collapse and even death in the case of old and debilitated animals.

Veterinary Surgeons as Revolutionists.

By T. F. PRIME, M.R.C.V.S., London.

Even from the days of the French Revolution, and of Mirabeau—one time veterinary surgeon—to the present uprising in Bavaria, veterinary surgeons have taken, though often quietly and in not too prominent a position, a great part in these movements. The history of the Russian movement for years contains quite a number of veterinary surgeons and veterinary students. In the present treason trial of General Ludendorff, the director of the Oberland League, one of the defendants in the trial is Dr. Weber, a young veterinary surgeon. Considering the comparatively small number of veterinary surgeons in the world, it is surprising what a number of them have taken prominent parts in the struggle towards freedom.

Light Horse Breeding.—On April 1st the administration of the Light Horse Breeding Scheme in Great Britain will be transferred from the Ministry of Agriculture to the War Office. It is pointed out that there will be no material change of policy, or any curtailment of the encouragement given in the past to light horse breeding in its several branches. The policy of the War Office will be generally to grade up the quality of the light horses produced in this country, and to eliminate as far as possible the production of the type of horse which, owing to malformation, unsoundness and general unsuitability, is unfit, not only for military, but for any useful service.

The Veterinary Record.

29th March, 1924.

National Veterinary Medical Association of Great Britain and Ireland, Limited.

EDITORIAL OFFICE: 10 Gray's Inn Square, London, W.C.1.

Cheques should be made payable and all communications sent to the General Secretary at the Offices of the Association, 10 Gray's Inn Square, London, W.C.1.

TUBERCULOUS CATTLE—"DOPING."

What becomes of the cattle which fail to pass the tuberculin test? It is a matter of common knowledge that large numbers of cattle are subjected to the test annually, and we know from statistics which have been repeatedly published that a varying proportion—from 20 to 50 per cent. of dairy cattle react. Theoretically these animals should be, and in many cases are, rejected from the herds. What, then, becomes of them afterwards? It may reasonably be supposed that a large number is not "clinically" tuberculous, they are not evident wasters, and they may be still capable of giving a good quantity of milk. To outward appearance they are marketable. We, as a profession, whose work takes us constantly amongst these animals, can make more than a shrewd guess as to what becomes of them, but the public and the authorities should be made aware of the true condition of affairs. We know that a very brisk trade is carried on in tuberculous cattle, and that this trade is a very lucrative one indeed. We know that there is a ready market for cattle that are reactors, and that are purchasable at a low figure. These animals can be, and are, doped with tuberculin which at present is readily obtainable by anyone. Subsequent to the doping, a veterinary surgeon is called upon to subject the animals to the tuberculin test. The test is applied, the cattle fail to react (being doped), and a certificate is given in good faith. Armed with this certificate the owner can then send the animals to market, and make from 30 to 100 per cent. profit on his purchase. All this is well known to our profession, which views with apprehension the widespread nature of the evil and its rapid extension.

We should like to see introduced some form of compulsory marking, preferably ear-marking, for all cattle that have been rejected as having failed at any time to pass the tuberculin test. We believe some such system is in force in America, and its introduction into this country would at least be one step towards the ultimate goal we have in view—the eradication of tuberculosis from our herds.

It is all very well for the Minister of Agriculture, to deny, as he recently did in the House of Commons, that the misuse of tuberculin is not prevalent. He only says what it is considered advisable for him to say by his department, and the fact of saying it does not make it true. It has been said that there are none so blind as those who won't see, and the Ministry of Agriculture can only be blind to this fact of the misuse of tuberculin because it will not see what is evident and patent to the whole of the veterinary profession.

Our profession welcomed the orders under Milk and Dairies Act (Amendment) Act as a step in the right direction. It has shown its approval by its willingness to do everything possible to make the orders workable, even to the extent of accepting fees which cannot recompense for the amount of work to be done. It desires to assist the Ministry of Health in obtaining for the public a pure milk supply, but it has been compelled, by reason of its knowledge, to point out that the Milk and Dairies Act (Amendment) Act and the orders under it are absolutely valueless, and a sheer waste of money and time, unless, as a first and essential preliminary measure, the standardisation and control of tuberculin is made effective by legislation.

We feel that the Ministry of Health would do better to take the advice of the Veterinary Profession, through its accredited representatives, on all veterinary questions concerning public health and the food of the people. To refer veterinary questions to another department, such as the Ministry of Agriculture, may be the constitutional way of obtaining official information, but it is not the way to get that true knowledge of facts which is only to be found amongst the members of the profession in actual practice.

Clinical Report.

The Editor will be glad to receive from members and others contributions to this column of reports of interesting cases.

Three Days' Fever of Cattle—"Bovine Influenza."

By V. V. VENKATACHALA IYER, Madras.

1. In the months of August, September, October and November of last year there was a considerable number of attacks among cattle of a variety of fever which I have for the present put down as an influenza fever. It was prevailing in Gudalur town and an adjacent estate about eight miles therefrom. This disease afforded quite an interesting study, not only on account of the scarcity of literature on its etiology and treatment, but also from the close similarity

which it bears to other diseases affecting bovines, particular mention of which will be made in a succeeding paragraph. In this short paper I have tried to analyse the subject critically in all its different aspects, and presented the facts as they were observed by me.

2. *Definition.*—It is an acute, contagious, febrile disease of bovines, especially of cows, bulls, bullocks and calves, characterised by the sudden onset of febrile symptoms lasting for about three days, followed by the appearance of slight metastatic lameness and ending either fatally or in recovery.

3. *Question of Contagion.*—The attacks were confined to two places of the Taluk only, as has been mentioned in a foregoing poragraph. The method of introduction of the disease into the Taluk cannot be ascertained with any degree of certainty, and, curiously enough, it seems to be of indigenous origin. Every successive attack after the initial one was noticed only in those animals that were in contact, or those that were mingling with infected ones on common pasture. In the absence of attacks among cattle of uninfected localities and on account of fresh outbreaks occurring among cattle of the infected places, I am strongly inclined to believe that it is contagious and perhaps infectious too.

4. *Etiology and Bacteriology.*—The cause of the disease cannot be definitely ascertained without laboratory experiments conducted on an extensive scale. But on account of the origin occurring in the winter months, exposure to cold and rains undoubtedly acts as a predisposing factor. During the course of the outbreak six blood smears from live animals and one smear from a dead animal were examined at the Madras Veterinary College, and also locally; but no organisms could be traced in any of these.

5. On making a *post-mortem* examination of the last animal that died of the disease, it was found to have suffered from acute, congestive broncho-pneumonia, and smears from the seat of the lesion and also from the various internal organs were examined at the Madras Veterinary College. The one from the lesion was reported to contain "varied organisms, including a few bipolar ones." This pasteurella is perhaps likely to be the cause of the disease, inasmuch, as all the diseases originating from the pasteurella group are found to run an acute course in practice. Apart from the academic interest attached to this, the solution of the question is of practical importance from a professional point of view.

6. *Distribution.*—The disease first appeared during the heavy rains, and with the approach of bright sunshine it had a tendency to lose virulence and subside. Hence this seems to be another complaint which has to be added to the long list of cattle pests restricted to winter.

7. *History of the disease and symptoms.*—As a rule, the history of the cases that came under my notice was quite constant and almost similar. An animal which was quite healthy the previous evening was reported to have been badly attacked with fever tne next morning. Two of the animals had died without any warning after a very brief period of illness, lasting from about two to four hours only in the night.

8. The attack was ushered in with rigors, staring coat, drooping ears and dry muzzle. The animal was off food and dull, the mucous membranes congested and the bowels constipated. The temperature was found to be ranging between 103-104·6° F. A couple of hours after these symptoms commenced there was slight dribbling of saliva. Respirations and pulse were found to be accelerated. These indications lasted from one to three days. On the second or third day slight metastatic lameness appeared. In animals that recovered improvement took place by the abatement of these symptoms after the third day.

9. *Mortality.*—Of the thirteen cases that I saw three died suddenly without any treatment. The other ten cases recovered after treatment.

10. *Post-mortem lesions.*—The following *post-mortem* appearances from the last case that died may be interesting as a guide:—

Subject—A country-bred cow, aged seven years, in good condition. External appearances—the abdomen was tympanitic and the rectum partly everted. Skin and subcutaneous tissue normal.

Abdomen.—Peritoneum normal. Stomach and intestines normal, and contained a fair amount of ingesta. Liver studded with a lot of cysts, otherwise normal. Spleen normal.

Thorax.—Pleura congested. Lungs: a diffuse venous congestion of both lungs was observed, and the bronchii and alveoli showed signs of hæmorrhage. One bright patch of congestion was conspicuously noticed on the right lung. Heart pale, flabby, and contained clotted blood. Cause of death—Acute congestive broncho-pneumonia.

11. *Treatment.*—Good hygienic surroundings, warmth, rest and soft liquid diet, coupled with internal antiseptic treatment, has given me most encouraging results. A few of the cases were given one dram dose of acid carbol. every two hours. But, on account of the large quantity of the drug which had to be given repeatedly by the mouth, this was subsequently replaced by the hypodermic injection of one dram of acid carbol. diluted with half an ounce of distilled water for adult animals. Those under two years received half the above dose. One such injection had a decidedly good curative effect.

12. *Conclusions.*—This complaint is likely to be confounded with anthrax, black-quarter, and acute rheumatic fever. It is almost impossible to differentiate it from anthrax except by microscopic examination. Otherwise the sudden onset, acute and short duration, and the external appearances of the carcase of an animal dead of this disease closely resemble those of anthrax.

(*a*) It could be differentiated from black-quarter by the absence of any external local lesion so characteristic af black-quarter.

(*b*) From acute rheumatic fever it could be

differentiated by the absence of very severe lameness or inflammation of any particular joint.

(*c*) The question of identifying the disease from its various symptoms is, to me, rather difficult. Whether it is an ephemeral fever or three days' fever, or an influenza affecting cattle it is not possible for me to say definitely. But from the occurrence of the disease in the winter, its close similarity with human influenza the pneumonic lesions and the appearance of lameness due to an idiopathic neuralgia, I have put it down as "bovine flu."

(*d*) I would finally request my colleagues in the field to throw more light on this subject if they have met with this complaint.

Divisional Reports.

Central Division.

No meetings are more thoroughly enjoyed than those devoted to the consideration of clinical cases, and accordingly the Fellows of this division spent a very pleasant evening at the R.C.V.S. on Thursday, March 6th, when they exchanged opinions concerning the interesting case series presented to them by Mr. W. R. Davis, of Enfield.

The President, Major G. Rees-Mogg, had written from the Riviera regretting his absence, and Lt.-Col. T. Dunlop Young was voted to the chair.

The following also signed the attendance book:—*Fellows.*—Messrs. W. Brown, F. G. Buxton, R. Bryden, R. L. Cornell, W. R. Davis, G. W. Dunkin, H. King, H. C. P. King, H. D. Jones, H. Kirk, P. Macara-Finnie, Professor J. MacQueen, Messrs. J. W. McIntosh, G. D. Martin, V. V. Morgan, W. S. Mulvey, W. Perryman, J. W. Pritchard, P. J. Simpson, P. W. Dayer Smith, E. L. Stroud, W. K. Townson, Dr. R. W. Tuck, A. E. Willett, J. Willett, Professor G. H. Wooldridge and Mr. J. F. Macdonald (Hon. Secretary). *Visitors.*—Messrs. E. C. Bovett, M. L. Dartnall, S. Datta, C. J. de Wet, C. Elphicke, W. E. Howell and R. Swaby.

Correspondence.

The receipt of other letters of apology for absence was announced from Miss A. Cust, Sir L. J. Blenkinsop, Sir John Moore, Major F. T. G. Hobday, Captains Glyn Lloyd and T. L. Wright, and Messrs. G. H. Livesey, B. Moss and H. L. Roberts.

Captain J. T. Angwin, of Arundel, wrote resigning membership on account of distance, and this was accepted with regret.

Mr. Salisbury Price had written thanking the Society for electing him an honorary life member.

Letters were read from the Midland Counties and Royal Counties Divisions intimating endorsement of the resolution passed by the Central Division expressing the utmost confidence in the veterinary officials of the Ministry of Agriculture in regard to their handling of the present outbreak of foot-and-mouth disease.

Messrs. B. Moss and J. G. Wright were elected Fellows of the Society, and Captain Glyn Lloyd was nominated.

Morbid Specimens, etc.

Captain G. Dunlop Martin: I was asked to see a cat a week or two ago which had had two or three kittens three days previously. The owner had noticed that the cat appeared to be very listless and that she seemed to be straining. Upon examination I found that the uterus was ruptured, and in view of the time that had elapsed, I destroyed her. I then found the mummified fœtus (produced), and it occurs to me that this may have been a case of extra uterine gestation, or did the uterus rupture early on? I wanted to ask if any of the Fellows had met with cases of viciousness or uncertain temper in a cat with cystic ovaries. A cat from which these two cornua and ovaries were removed on *post-mortem* was brought to me for destruction on account of her extremely savage temper. On one of her ovaries I found two or three bloody-looking spots—I could not myself explain what they are.

The Hon. Secretary: I should like to get some information about a disease that is troubling us a good deal at the moment. It is a series of cases of cracks across the region of the back tendons. The cases seem to be confined to North Country-bred horses, Clydesdales in particular, and they are nearly always in horses that have recently come down from Scotland. We never seem to get it in any horse that has been working for more than twelve months in London. It practically always occurs in the hind legs. They are extraordinarily protracted cases, for, after they have apparently healed up, a few minutes walking exercise in the yard is sufficient to make them open up again. Nothing that I have tried in the way of treatment seems to be in any way effectual.

Professor MacQueen: I do not quite gather what is amiss with the horses. It may be that they are cases of erythema with transverse fissuring of the skin—that sometimes happens in the hind shanks. The condition is very similar to sallenders and mallenders, and I should think that the ordinary remedies for these complaints should be tried in these cases, while I should be inclined to bandage.

Mr. W. S. Mulvey: I have seen the condition very frequently in Suffolks as well as in the Clydesdale; it is very rare in Shire horses or horses that have much hair on the leg. The only thing that has any effect, in my experience, is to cauterise the places every second or third day with the ordinary silver nitrate pencil. It seems to me to be a type of mud fever, although I know the horses under Mr. Macdonald's charge are free from the predisposing causes to that affection.

Mr. J. W. McIntosh: Supplementing what Mr. Macdonald has told you, I may say that during the past two years we have always had young horses, and they are in the pink of condition. They show no swelling of the limb when affected with this condition, which starts with a little crack. It is a thing of which I have had no previous experience. The

horses go very lame, and it is a most serious thing to have so many horses idle in a big stud from so apparently superficial an injury, for it causes a very great deal of loss in earning capacity.

Mr. PERRYMAN: I have seen a number of horses with these cracks, and I think a good deal in treatment depends upon the clipping of the leg, though I do not suggest the whole of the limb being clipped. The fissures are filled up with a thick layer of epithelial cells. I suggest that the hair be taken off in transverse layers in line with the crack, and that the legs be not washed but the sores lubricated with some antiseptic preparation. I use zinc ointment myself with an occasional alternative dressing of ol. picis in oil 1-8. I do not agree with the statement about cauterising the wounds, because you destroy the epithelium and you do not get granulations.

Mr. H. KIRK: I would like to ask Mr. McIntosh whether he has thought of the bedding as a possible cause of the etiology of the thing.

Mr. MCINTOSH: The majority of the horses have been bedded on chips, but we are now bedding on straw.

Mr. KIRK suggested elevating the heels to avoid opening the cracks.

Mr. MACDONALD: It was with some diffidence that I tried the caustic treatment, as I considered it was not technically correct, but I secured better results than with emollient treatment. I am rather inclined to think it is parasitic in origin.

Mr. J. WILLETT: I have seen several of these cases, and I have found them very difficult to treat. I have had most success with oatmeal poultices. Before you apply them stimulate the wounds, not with a caustic, but with a little liniment, of course keeping the hair short. I think if you try that treatment, you will attain a certain modicum of success.

Professor WOOLDRIDGE: It is within the memory of most of you that the President presented us with details of a heifer with enlarged glands which had broken down and discharged. At the last meeting he reported that the animal had been destroyed. The *post-mortem* appearances of the case presented features which led to the suspicion of tuberculosis, while the symmetrical manner in which the superficial lymphatic glands were affected suggested the possibility of Hodgkin's disease during life. At that time I reported that I had seen scrapings from the omentum and had failed to find any organisms present. Mr. Ware has since passed a portion of the omentum through wax for section cutting and had some stained for acid-fast bacilli. After a long search it was then possible to find acid-fast bacilli in the sections. The case must therefore be regarded as one of tuberculosis.

As regards Captain Martin's specimens, the uterus and the ovaries from the cat that was vicious look to me that there is considerable thickening, and it occurred to me that the cat was in œstrum. The two things together seem to me to account for the viciousness.

In connection with the other specimen, I should hardly think that is a case of extra uterine gestation; I should think that the uterus ruptured at some earlier date.

Mr. KIRK: I have a cat in now, from which I propose to remove the ovaries, which has a shockingly bad temper, and I fully expect to find something wrong with them. At the present time I am giving chloretone in gelatine capsules.

Mr. MACARA-FINNIE mentioned the case of a bad-tempered cat, in one of the ovaries of which he found a small cyst.

MR. W. R. DAVIS' CLINICAL CASES.

Mr. W. R. DAVIS, of Enfield, then presented the following paper, entitled "Some Clinical Cases and a few remarks on them":—

What I have to submit for your consideration this evening has no pretensions to be called a paper. I was asked by our Secretary to provide material for a clinical discussion, and if what I am about to read achieves that purpose I hope you will consider that I have fulfilled my promise.

LYMPHANGITIS.—One foggy and bitterly cold Sunday night in November a young farmer called and asked me to go with him to attend one of his father's horses which was very ill. The horse had worked half a day on the Saturday, had eaten his food on that night and on the Sunday morning, but when the attendant went to feed the horse on the Sunday evening he found the animal displaying the following symptoms: He hung back in the stall, blowing, shivering and sweating, apparently greatly distressed, and on the side of the neck there was a large swelling. I asked the messenger if the swelling was painful, receiving a negative reply. I told him then that I could not say what ailed the horse; anthrax and malignant œdema suggested themselves. After I had got a few medicines, etc., in a bag we started. We had seven miles to go. My client had a touring car, and he drove through the fog like the son of Nimshi. I was thankful to arrive. I found the patient, a six-year-old Shire gelding, much in the condition described; pulse 100, temperature 106° F. On the off side of the neck was a large swelling which, contrary to the messenger's statement, was very painful, and on the inside of the right arm there was also a painful swelling. It was evidently a case of "gout," but in all my experience of this malady I have never seen it accompanied by a swelling of the neck. I gave a physic ball and left a lotion of liq. plumbi spirit and water to be applied to the swellings. I saw the patient again on the Tuesday and Friday, continuing the lotion and giving a few alkaline powders, and he was then ready to go to work, all swelling and lameness having disappeared.

The malady is mostly observed in cart horses. I have seen it repeatedly in harness horses. It is said to be due to the resting horse receiving full rations, but it can occur in an animal when the day's work is done. I have repeatedly seen it in a horse that on the previous day had done exceptionally hard work.

Food very rich in protein and in too great quantity is assigned as a cause.

During the war, when rationing was enforced and the horses had a restricted diet, lymphangitis was as commonly met with as it is to-day. In spite of these contradictions, it is certain that the disease is the expression of some alimentary disturbance. Certain foods will produce it. It may often be seen after heavy feeding with green food—vetches particularly. I had five cases in one stable on a Monday morning after the horses had received green vetches on Saturday and Sunday, and I saw two in-foal mares affected after eating a lot of the same food. It appears to result from an attempt of the skin to eliminate some poison from the blood. H. G. Wells says that life is a reaction to stimulation; perhaps lymphangitis is a reaction to the irritation of a toxin of alimentary origin that the skin is endeavouring to get rid of.

Cadiot, however, considers that the affection results from microbic invasion. He says: "On examining the member one finds generally a solution of continuity of the skin, sometimes cracks or a puncture, but pretty often it is impossible to discover the port of entry of the pathogenic agents. One should not conclude, however, that one has a lymphangitis without previous inoculation." I do not consider that this view of the etiology of lymphangitis is admissible. It is possible to mistake this malady for other conditions. Purpura may be mistaken for it, as may sprains and contusions.

As to treatment, a physic ball and an evaporating lotion and, after a couple of days, a few alkaline powders. For diet, hay and water, and absolute rest for a couple of days. I do not believe in fomentations or exercise. Has anyone here tried fomentations by means of a hay rope tied round the affected limb and hot water poured over it? Of all experiments in therapeutics this is, I think, the most barbarous. And yet nearly everyone who writes on this malady recommends the procedure. It is advised in Hoare's *Medicine*. Mr. Gladstone Mayall read a paper on "Fetishes in Veterinary Medicine" some time ago I wish that he had included this. With his sense of humour he could not have failed to put it in a diverting light. In religion ideas are said to crystallise into dogmas, and I suppose it is the same in therapeutics.

Eclampsia.—This term is used to designate convulsive seizures, similar to epilepsy, but distinguished from the latter by the patient retaining consciousness and by the fact that after the attack, if the cause be removed, there is no recurrence. The malady is quite frequent in young animals; pigs, dogs and calves are the subjects of it. It is produced by causes which lead to an unstable condition of the nerve centres and permit sudden excessive temporary nervous discharges. These causes may be:—

1. Gastro-intestinal disorders, overloaded stomach.
2. Peripheral irritation—worms, teething, etc.
3. Infectious diseases—distemper.
4. Rickets, debility and malnutrition.
5. Hyper or hypo function of the endocrine glands.

The disease is seen in calves (Jersey calves or calves getting Jersey cows' milk especially), and fatalities are frequent in these patients. Young pigs, soon after weaning and getting rich food, will go to the trough, take a certain amount, and then suddenly turn round and have a "fit."

The food should be changed and oil or sulphur given. Fatalities are not infrequent. Young dogs apparently in good health are suddenly seized with a mania for rushing round the room, over tables and chairs, and finally collapse and become rigid and have convulsions. They frequently utter cries; sometimes they will cry continuously for an hour or more. As a rule the attack passes off after a variable time, and there is no recurrence. At other times attack succeeds attack with very short intervals (*status eclampticus*), and the patient dies.

Treatment:—Aperients and afterwards bromides.

Parturient Eclampsia.—I have seen this in the mare and repeatedly in the cow, but much more frequently in the bitch. In the cow it comes on a day or two after calving. The animal is unsteady in her gait, is dull, eats little, falls, lies on the side and shows convulsive movements of the legs. The eyelids twitch and the eyeballs pirouette. Sometimes, in progression, the legs are lifted as if the patient had stringhalt. Spasm of the neck muscles is seen. After an aperient recovery is the rule, perhaps, but death is not infrequent.

Parturient eclampsia is frequently seen in the bitch. Usually it comes on two or three days after pupping, but may be seen much later or even before parturition. There are, I think, two forms of the malady—one in which the bitch forsakes the pups, wanders about with very unsteady gait, falls, lies on the side, the legs extended and rigid, the whole body stiff, the jaws chatter, saliva escapes from the mouth, and the eyes are fixed. The respiration is rather hurried and the pulse is extremely rapid. In the other form the bitch is found on her side, unable to stand, body rigid, head drawn back, mouth wide open and the tongue protruded, much saliva escaping. The breathing is extremely rapid and laboured. I will briefly describe two cases.

Cairn terrier bitch, first litter of pups born two days previously. I found the patient (which was the property of a medical man) under a chair in the hall, sitting on its haunches and apparently normal. As she would not come out to be examined, the chair was removed, when the bitch staggered across the hall and fell on her side in a fit. The body and limbs were rigid, head extended, eyes fixed and staring, while the jaws chattered continuously. The breathing was not extremely rapid, but the pulse must have been 160 or more. The owner expected the bitch to die at once. We carried her to the kitchen table and put her under chloroform, and in half an hour she had completely recovered. However, I gave her a dose of chloral and bromide of potassium, and left two other doses to be given if necessary. Early next morning there was another attack, but of a milder

character, and it was controlled by the chloral and bromide.

Fox terrier bitch, suckling five pups four days old. When I arrived the bitch was on its mistress's lap. Body and limbs stiff, head retracted, mouth wide open, tongue protruded, breathing panting, laboured and extremely rapid, pulse 100. The bitch was at once put deeply under chloroform, and in half an hour the attack had passed off and there was no recurrence.

As to the cause of parturient eclampsia many views are held. Nervous trouble from emotion (loss of pups, fright, etc.) is assigned. This, I think, we may discard. Auto-intoxication from the eliminating organs being at fault is much more probable, and is generally received. Recently, the influence of the endocrine glands in producing parturient eclampsia has been invoked, and it is asserted that the symptoms are due to cerebral anæmia arising from spasm of the cerebral vessels. In accounting for it one author has maintained that "pregnancy is a physiological process not yet perfected in the course of evolution, and that the multitude of abnormalities occurring in connection with it are the result of this fact. Just as the processes of gestation from the beginning to the end of the period are stimulated by the hormone of the anterior pituitary lobe, so the pathological changes liable to occur at any time during pregnancy are due to over-activity of that part of the gland, and as the physiological stimuli for the latter part of pregnancy are supplied by the posterior lobe, the infundibulum, the pathological conditions here are the result of over-activity of that lobe. The violent tonic or clonic convulsions of eclampsia are the result of over-stimulation of the infundibulum, giving contractions and spasms of the blood vessels of the brain, causing anæmia and œdema of the organ."

Hæmatomata.—A hæmatoma is produced when, as the result of a contusion, blood escapes into the surrounding tissues. Hæmatomata are found on the external ear of the dog, cat and pig. These, on being evacuated, are found to contain bloody serum and some clots of blood. In cattle, however, the contents are solid masses of clotted blood.

When attending a cow at a farm some time ago, I was asked to look at another cow which had a lump on her side just over the last rib. The swelling was about the size of one's fist, solid and painless. I had treated two cattle on the farm previously for "wens," and I thought that this cow was similarly affected, but as I did not consider this ripe for dressing, it was arranged to wait a week. I forgot about the case, and a fortnight afterwards a message was sent for me to come. The swelling was now four times larger. On cutting into it the contents were found to consist of solid, clotted blood; this was, as far as possible, scooped out, the cavity flushed out with antiseptic and daily syringed afterwards until complete recovery took place.

The quantity of blood in this case was so great that it could not have been merely capillary bleeding; some considerable vessel must have been ruptured, and I have wondered since whether, if I had opened the tumour in the first instance, a rush of blood would have followed the incision or the removal of the clots. I read in a work on human surgery that a hæmatoma should never be opened; it might sometimes perhaps be evacuated by a syringe under antiseptic precautions. This method would hardly serve for cattle, nor for the hæmatomata of dogs or cats, which are best treated by incision and stitching, as recommended by Professor MacQueen.

Open Temporo-Maxillary Joint.—A grey gelding, six years old, was turned out to grass in company with four other horses. One day, on going to look at the animals, the owner found the patient standing by himself, looking depressed and tucked up, and with a quantity of coagulated discharge on the right cheek. The horse was brought home and fomented, and the next day I was sent for. Below the ear was a small wound, with a teat-like projection of granulations, from which escaped what was apparently synovia. On carefully introducing a sterile probe, I convinced myself that the joint was open. There was considerable swelling, which was painful to the touch. The horse would eat nothing but sloppy bran. After washing the swollen parts with methylated spirit, they were painted with tincture of iodine and then into the wound was injected, with a hypodermic syringe, a mixture of ether and oil of cloves, equal parts, and a good coating of iodoform and flexible collodion applied. A neck strap was used instead of a head collar, and the horse was fed for a week on milk, hay tea and linseed tea. Collodion was painted on every day for a week and by this time most of the swelling had gone, and there was no escape of synovia, the horse subsequently making a complete recovery. The injury, no doubt, resulted from a kick by one of the other horses. This is the first time that I have seen such a case.

May I recall the fact that in this joint there are two distinct synovial sacs, a superior and inferior, the bones being brought together through the intervention of a cartilaginous disc, to which the strong fibrous, capsular ligament is attached.

Epsom Salts.—On one or two occasions I have called attention, in the *Record*, to the danger attending the routine exhibition of large doses of epsom salts to cows, especially to calving cows. A few weeks ago I was called to a cow due to calve. I found her down and unable to rise; temperature 100° F., pulse weak and accelerated, respirations shallow, but not greatly quickened, eyes somewhat retracted and weeping. There was great depression. The right hind-quarter was swollen and hard, but no pain was evinced when it was handled. I was told that it had been like that for three days. As the cow was very cold, I had her well rugged, after applying a stimulating liniment along the back. A good dose of spirit of nitre and aromatic ammonia was given and another left to be given at night. Five hours afterwards a messenger came to ask me to attend again, as the cow was calving. I went at once, and on arrival found two fore-feet protruding from the vulva and the cow dead. I was then told that the cow had

been given three calving drinks on the preceding days. I was shown the kind of drink given. It was a packet weighing about twelve ounces and containing, I have no doubt, the usual exsiccated magnes. sulph. and gentian. What caused the cow's death? In my opinion, her nervous system was so profoundly depressed by the salts that the throes of labour were too much for her, and, like David Harum's calf, she "didn't exactly die neither, but just pettered out."

CHOKING.—Last November I was called to a cow choked with a piece of mangold. She was so tympanitic that I immediately punctured the rumen. After the escape of a quantity of gas, the rumen began, as usual, to move violently, and I held on to the shield of the cannula to prevent its being displaced. Suddenly the shield came away in my hand and the cannula disappeared into the rumen. I proceeded to pass the probang, and was successful in removing the obstruction in a very few minutes. The owner was a bit of an optimist. "She'll pass that thing all right," said he. When I expressed grave doubts he agreed to dry the cow off and feed her. I saw her a few days ago. She is still, after four months, giving ten quarts of milk a day and has put on fat.

About passing the probang.—Someone in Ireland—I think Mr. Howard—stated at a meeting that a good plan, if any difficulty was found was to cast the cow. I can endorse his view. I have done it many times, and years ago recorded it in the *Veterinary Journal*. If the cow is thrown on the left side, with a balling iron in the mouth, the hand can be passed far down the æsophagus and the obstructing body, which often lodges in the upper part of the canal, may be grasped and removed, or the probang passed, when long efforts to withdraw or repel it in the standing posture have failed.

DISCUSSION.

Captain DUNLOP MARTIN: I should like to thank Mr. Davis very much indeed for the very interesting matter which he has given us. With regard to lymphangitis, I understand Mr. Davis to say that he does not agree with fomentation. I have found much benefit resulting from having a good big cloth wrung out in hot water and applied to the region of the inguinal glands, but the water must not be allowed to run down the leg. The lotion he mentions—liq. plumbi—is as useful as any one can apply. Concerning hæmatomata, the treatment is to open up very freely and clear out all the fibrinous clots. I do not suture through—my practice with the small animals is, without making a very lengthy incision, to remove a V-shaped piece from each side of the incision and opposite each other, with a view to preventing the wound closing, and thus causing more trouble. Mr. Davis' treatment for eclampsia is very useful indeed. I think the use of chloroform in these cases is about the best.

Mr. MCINTOSH: I also would like to thank Mr. Davis for his very interesting and practical remarks; we are always sure of receiving a very practical paper from him. With regard to lymphangitis, I agree in the main with the views put forward. It is not an uncommon disease, and it is one which is much more common in country districts than in the town. In the matter of treatment I am not quite of Mr. Davis' opinion, for I do think, with Captain Martin, that hot fomentations are useful. They relieve pain and that in itself is, I think, an item which we ought to observe. I agree with giving them a strong dose of physic. The old method of running round the limb a hay-band or straw rope had the advantage of keeping it warm. A dose of physic, diuretic diet, and, I would add, exercise, constitute correct methods of treatment. With regard to eclampsia, I have not had much experience of the canine species, but when I was in country practice I saw it in cows after parturition. It passed off, as a rule, under sedative treatment. I used chloral principally. I think the best way to deal with a hæmatoma is to open it; it is the quickest way of getting rid of it. In reference to salts, I know that the giving of these is a pet subject of Mr. Davis. Salts are very useful in cattle practice, and I never hesitated to give a big dose with gentian and ginger.

Mr. PERRYMAN: I wrote the paper down as a menu of a pathological banquet. (Laughter.) As to lymphangitis, I have seen as much of it as most people, having a big practice amongst heavy horses, and I think "Monday morning disease" is a very good definition. I was rather anxious to hear Mr. Davis' views as to the etiology of the disease. I do not know whether it is correctly described as being of dietetic origin. If so, why does it affect one limb and not two, and why generally a hind limb? I think it is more due to some circulatory trouble in the inguinal region probably causing some obstruction in connection with the lymphatic glands, because we always see the swollen lymphatic vessel first. It looks to me more like a back-flow of the lymph being carried through the lymphatic glands, and some obstruction higher up. In the North of England the general consensus of opinion was that lymphangitis arises from the lower end of the limb, probably from some wound, but in the majority of cases we do not find one—you only see the lymphatic cord. If you do find a wound, you get a different train of symptoms—those of a septic inflammation of the limb, which comports itself very differently from the ordinary "Monday morning" complaint. As to general treatment, I do not quite agree with Mr. Davis. He said he did not advise exercise. I always practise it. Tell the people that if they can give the animal exercise in the early stages, they will cut the course of the disease short by half. But in the very acute cases I do not advise excessive exercise. In the others I tell the men that three ten-minutes a day is better than half an hour, for the simple reason that you have the temperature up, and the animal is too greatly distressed by the longer spell. I do not agree with bandaging. I have seen very serious cases result from bandaging in any form whatever. You are dealing with men who put a bandage on in a mechanical way, and as a consequence

you may get a localised swelling at the hock joint which may prove very troublesome, whereas, if you leave the leg unbandaged, you get a uniform swelling down the leg, and the animal recovers more quickly. As to the lotion, I use an oily lotion in preference to a spirituous one. In regard to eclampsia, I should like to know if Mr. Davis thinks that the uterus has anything to do with the trouble. I wash it out with permanganate. I can assure him that I have had some good successes with bromide in this condition. Mr. Davis did not mention hæmatoma of the thigh—that is the one we generally get in horses. In addition to a long incision, use a curette, and see that you remove all fibrinous clots. I treat open temporo-maxillary articulations with boracic and a small amount of permanganate powder as a drying dressing. They usually recover, although they are generally troublesome cases.

Lt.-Colonel YOUNG: I have had something between one and two hundred thousand horses through my hands in France, and it was extraordinary how few of them were affected with lymphangitis.

Mr. DUNKIN: I am almost entirely in disagreement with that view, although my sphere of action (Egypt) was not the same. We had a lot of lymphangitis, and our treatment was invariably a dose of physic, exercise, hot fomentations without excessive water, and exercise again. I do not remember a case not doing well, and I adopted that treatment because it had proved successful with me in private practice. I have, on occasions, had unfortunate cases in private practice, and I remember a death, when I was not called in for a week, the horse having been kept in the stable the whole time. It was then impossible to move the animal, and so exercise was out of the question. I am very interested in the condition of eclampsia, and especially in regard to its occurrence in puppies. I wonder if it has occurred to anyone that eclampsia, as met with in puppies, may possibly be due to distemper? I have heard it suggested, and have read of it in various publications, while I have met with practitioners who have said that it is the case, and that if such animals are watched for any period up to six weeks, they subsequently develop distemper in its most virulent forms. With regard to Epsom salts and the treatment of ailments in cattle, I contend, with great respect, that Mr. Davis has not made out his case in connection with the death of the cow which he described to us. I have never yet discovered any untoward result from the administration of mag. sulph. to cattle, and in consequence I shall continue to give it.

Mr. JONES: At one time we used to look upon a case of lymphangitis with a certain amount of fear, thinking of glanders and farcy, for which we used to test, but that day is gone. The animals seem to me to get well without any treatment at all; they do not want any physic. If you find a good box for them and move them about a bit, they get well far better than by giving it—in the former case in two days as opposed to five. I should like to ask if Mr. Davis regards the fore-leg lymphangitis as being due to infection from the pre-pectoral glands? In hæmatoma you may sometimes have, after surgical interference, infection of the fascia, which may extend between the layers and give rise to a very troublesome condition. I have seen no recoveries in cases of open temporo-maxillary articulation.

Professor MACQUEEN: I join in the general chorus of congratulation of Mr. Davis for his effort. I would be much more sanguine about the treatment of the subjects with which he has dealt, however, if I agreed with him; but I do not, in a great many instances. To take lymphangitis, I am not sure, from Mr. Davis' description, that he had a case of lymphangitis at all. I think it is open to question that the swelling on the side of the neck had anything to do with that condition. Lymphangitis, as I understand it, is merely a congestion of the lymphatics of the limb, a congestion of the glands associated with these lymphatics, and sometimes, owing to infection, there is a complication in the form of abscess formation, usually in the superficial inguinal glands. I quite agree with the quotation he gave from Cadiot that the disease is generally due to some inoculation. Although you cannot discover the wound in the majority of instances, probably that is responsible for most of these cases. The alimentary causation doctrine of lymphangitis is a convenient one, and as the disease is most often met with on Monday morning, it appears to be quite a popular view that the horse has been standing idle on the Sunday, and that he has, therefore, contracted the trouble through dietary excess and the absence of work. That is a mere coincidence, the fact being that attention is first attracted to the case on Monday morning. The owners see defects then that they could not see earlier. (Laughter.) That is a superstition, and, like many more veterinary superstitions, it is absolutely false. The straw rope or the hay-band furnishes an excellent means of applying warmth and moisture to a swollen limb due to congested lymphatics, and if there is any virtue in warm fomentations then I say that one of these properly applied constitute excellent treatment. The reason that the straw band is not so often seen nowadays is the disappearance from the stables of the handy-man who could make a straw rope. It is superior to any form of bandaging that you can apply to a leg affected with lymphangitis.

The common form of hæmatoma met with is probably that of the dog's ear, though in the horse hæmatoma of the quarter is nearly as common, and it is nearly always due to bruising contracted in falling, or to some other injury. I heard it said that, in opening a hæmatoma of the dog's ear, it was not desirable to stitch the ear through and through. I maintain that the duration of the complaint is shortened considerably if the two layers of the ear are stitched together with catgut, but if you use silver wire for the stitching, you will aggravate the trouble. If we would only hold our hands with regard to the use of antiseptics in cases of this type, we would get many more expeditious cures. We abuse these things, and much of the treatment given by veterinary surgeons as a class is wrong, simply because

they will not allow a wound to heal of its own accord. With regard to hæmatoma in the horse—when large they should be opened, but if they are small they should not be opened at first, for many cases of small hæmatoma will spontaneously disappear if you will leave the case severely alone. Speedy cut and bumped knee should be left alone if they are small, and so long as the swelling is not too large and shows no sign of increasing or extending. But if you get one of large size, open widely, and see that the opening is at the lowest point. I quite agree with Mr. Jones that in some of these cases, where one has been opened, infection of the fascia takes place; infection extends between the layers of the fascia, and then you have to make a counter opening.

I have never seen a case of eclampsia, and I should like to see one. (Laughter.) The first member of the profession to introduce the subject was Mr. Clark, of Coupar Angus, and he described eclampsia of the cow following parturition, and since that time there has been an inclination in the veterinary profession to write and talk about eclampsia. Before I accept the existence of eclampsia as an ordinary disease I want to see a case. It is a convenient thing to say to a client that his dog has eclampsia—the truth is that the dog has a fit. (Laughter.) There are far too many of these assumptions; let us stick to what we know. You must justify the existence of a disease about which you write or speak. If you believe it is a common disease of the lower animals, there should be no difficulty about finding cases.

In regard to the case of open temporo-maxillary joint. Here again—I am sorry to say it—but temporo-maxillary open joint is very uncommon, and when it occurs you will not heal it in a few weeks. There is almost always injury to the inter-articular cartilage, and I think that what Mr. Davis was dealing with was a fistula of the parotid.

I have never had an opportunity of replying to those remarks of Mr. Davis which I have often read in the *Veterinary Record* about magnesium sulphate. For years before I came to London I was in a mixed practice in which there were a number of dairy cows, and the ordinary treatment for the average ailment of the dairy cow was a dose of mag. sulph., ½lb. to 1lb., in a quart of water, with perhaps a pound or two of treacle. I have never seen a cow yet suffer severely from mag. sulph. administration, and I do not agree that it is ever responsible for the death of a cow. But I quite agree with Mr. Davis that sometimes mag. sulph. is prescribed at the wrong time. It has in time a depressant effect, but I do not think it is calculated to do any serious harm.

Mr. R. BRYDEN: I should like to agree with the Chairman in that, in my army experience, I never saw lymphangitis. With regard to hæmatoma, in the army we used to get a large number of horses that used to bite each other in the neck, and we then had cases of hæmatoma as large as melons. We had good results by excising the loose skin and then suturing.

The HON. SECRETARY: As far as my army experience went I agree that lymphangitis was very uncommon, in France at any rate, and I think that probably the not very generous diet may have had something to do with it, together with the fact that there were plenty of hard work and regular exercise there. Regarding treatment, I confess I do not quite understand the strong objection to fomentations. I think they are very useful but of course it is necessary thoroughly to dry the limb afterwards. They certainly relieve the pain. As for exercise, I think condition is, in the early stages, much too painful. An animal with a temperature of 105° F., as one frequently gets, and with an intensely painful condition of the lymphatics, should not be exercised at that stage, but certainly later on. Physic balls are very useful, but I think they can be overdone, especially if you have an animal in low condition.

Hæmatomata were certainly extraordinarily common in the army, due, as Mr. Bryden says, to bites. The army cases seemed to me much more troublesome than the cases we get in civil life. The cases never appeared to heal properly; they left a tremendous ruck in the skin, and they nearly always occurred at the site of the harness. The method of treatment suggested of puncturing and suctioning out the fluid does not seem to me advisable. You must open them up well to get good drainage.

The open temporo-maxillary articulation is not a very common condition, and I must say that Mr. Davis was very fortunate in getting such a good result. Professor MacQueen suggested that that was a parotid fistula, but I do not quite understand how he reconciles the discharge of synovia with that. Although I have never had any success with it, I think that limiting the movement of the jaws in these cases has probably a beneficial effect, also feeding on soft food, which does not require a great deal of mastication.

Mr. J. WILLETT: I should like to congratulate Mr. Davis on the good discussion provoked by his paper, and, secondly, Professor MacQueen on his return to form. (Laughter.) It seemed like old times to hear him—like the times when Mr. Hunting was alive. But he said a lot of things with which I do not agree. Lymphangitis is seldom or never seen in the racehorse or the hunter, and I have never looked upon it as an infection. I put it down as a congestion of the lymphatics.

As to the hæmatomata, I am in agreement with Professor MacQueen as to the undue rapidity of some veterinary surgeons in opening them. I insert a small trocar and cannula in the lowerpart of the swelling three or four days running, and evacuate. There is very little clotting in the lower part of a hæmatoma. I think that in making a long opening you run the risk of infection occurring, and that you may get a permanent discharge afterwards.

THE REPLY.

Mr. W. R. DAVIS, in reply, said: I am very much obliged to you for appreciating the little effort that I made to get material for a discussion and for the part that the Fellows have taken in discussing it.

Captain Martin believes in fomentations, as do a good many others, in the treatment of cases of lymphangitis. I have had a good many years' experience of lymphangitis, and I used to foment, as everyone else appeared to do, but I have left it off years ago, and I have found that the horse gets better more quickly, and not only that, but a thing that has convinced me that fomentations are wrong is this—that if you do not foment, you will very seldom get a thick leg afterwards. A further reason is that it is the skin that is affected to a great extent in lymphangitis, and I think it is a barbarous thing to put on a straw rope in this acutely sensitive condition. You want to apply something extremely soothing, and you cannot do much harm with a soothing lotion. I entirely object to hot fomentations, which often end in the horse developing a thick leg.

Captain Martin did not believe in Professor MacQueen's method of treating hæmatomata by stitching the flaps down. I think he is wrong. Mr. McIntosh agrees with fomentations; well, as I have said before, I do not, nor do I believe in exercise, especially in the first instance. How would it have looked if I had ordered exercise to the horse in the case I read to you, with a temperature of 106° F., and the animal in great distress?

Mr. McIntosh: I excluded these severe cases.

Mr. Davis: I do not agree with exercise at all till a great deal of the lameness has disappeared.

Mr. McIntosh also agrees with the giving of salts to calving cows. I used to use them in a routine manner, and I found that, in a good many instances, the cow did not get her bowels open with the first dose. You get a lot of soft fæces coming away; you had the retention of a lot of hard material in the rumen and the intestines, and you invariably got brain symptoms. Fifteen or twenty years ago I persuaded a client of mine to discontinue their use, and he said to me some years afterwards—"It is a curious thing, but we never get one of those cases now in which the cow seems to go mad, knock a horn off, and die." If Epsom salts are given to a calving cow and she gets milk fever, you always have ten times more difficulty in getting that cow better.

I think I am right in thinking that Mr. Perryman did not associate lymphangitis with diet. If that is so, I should like to know how he can account for the fact that you have these seven cases where it followed on eating a lot of highly albuminous food-vetches, etc. Mr. Perryman suggests washing out the uterus in cases of eclampsia. I believe it is done in the case of the human being, but in the case of the bitch you will sometimes get the condition coming on perhaps ten days after pupping, and I have always had success with them by simply giving them chloroform, or sometimes a hypodermic injection of morphia will serve.

Major Dunkin believes in fomentations and exercise in lymphangitis. I do not. I quite agree with him when he says that eclampsia seen in young dogs may be the beginning of distemper. I mentioned that in my notes. He agrees with the exhibition of Epsom salts. I have told you my objection to that.

Mr. Jones does not think that there is any treatment necessary at all in lymphangitis. I think in an extremely severe case that the malady is cut short by giving a good dose of physic and clearing out the bowels.

I did not mention hæmatoma in connection with the horse. I should have done so, but I wrote the notes rather hurriedly. I quite agree that it is, in the horse, often a more serious condition than it is either in the cow or dog. Mr. Jones suggested that the swelling in the neck of the horse with lymphangitis was associated with the pre-pectoral glands. It was far too high up—it was not close to the shoulder, but right in the middle of the neck.

Professor MacQueen thinks that the fact that horses get lymphangitis on the Monday morning is probably a coincidence. He thinks it is associated with infection from small wounds in the limb. I cannot agree with that. I ask Professor MacQueen how he accounts for those cases where the animal has had these green vetches that I spoke about. All these animals could not have had wounds, and, as Mr. Willett says, you never get it in thoroughbred horses.

Professor MacQueen: You do; but it is not common.

Mr. Davis: I am convinced that the disease is due to some poisons that are absorbed from the intestines, and that the swelling that we see and the intensely sensitive condition of the skin are due to the reaction set up through the irritation of the poisons being eliminated through the skin. Professor MacQueen agrees with the use of the straw rope. I cannot understand his doing so; the skin of the area affected is far too sensitive. I quite agree that hæmatomata in horses should be left alone if small, but in cattle the best thing is to open them, scoop out all the clots you can, and wash them out. Professor MacQueen says he has never seen a case of eclampsia. But the term eclampsia is used in human medicine to cover all types of convulsion; so I do not see why we should not use it ourselves whenever we have an animal affected in a way similar to epilepsy in human beings.

The material coming down the side of the horse's cheek in the case of open temporo-maxillary articulation was exactly the same as you get from ordinary open joint. It was an oily material, and it coagulated on the side of the horse's face. Not only that, but he would not touch anything; he could only take water and sloppy bran; a parotid fistula would not have this effect. I am convinced that it was a case of open temporo-maxillary articulation, although I had never seen one before.

Mr. Macdonald agrees with most of the things I have said, but he, too, supports fomentation administration. He will, I have no doubt, have plenty of cases of lymphangitis in the future, and I would ask him to try one or two without fomentations, and see if he will not get as good or better results.

On the motion of Mr. Perryman, a most hearty vote of thanks was accorded Mr. Davis for his paper.

The meeting concluded with a vote of thanks to Colonel Young for his occupancy of the chair.

J. F. Macdonald, *Hon. Secretary.*

Midland Counties Division
(Continued).

Discussion of Clinical Cases.

Discussion followed on interesting cases brought forward by members, many of whom had submitted the facts in writing, and these had been printed and circulated among the other members.

Injury to the Sternum of a Mare.—Mr. Martin said his experience was that any injury of this kind generally caused a great deal of trouble and the patient did badly.

Mr. Hughes remarked that there seemed to be a considerable amount of fresh bony tissue formed on the surface. It would be a matter of interest to know what measures of disinfection were taken in the first instance. It seemed to have set up widespread irritation throughout the greater portion of the sternum. Did it start apparently to heal and then start afresh somewhere else? It would also be interesting to know to what extent the animal was incapacitated for service.

Mr. Brooke remembered a case in which nothing seemed to do it any good. In the President's case, were the organs healthy or was there any trace of tuberculosis?

The President, replying, said there was no evidence of tuberculosis. The animal might have gone on working, but she cast her foal, and she also developed some nervous injury to the shoulder. He put the mischief down not to septic infection, but to a small fracture and suppuration of the bone.

Food for Thought.—Mr. F. Chambers was not in favour of irrigation of the uterus, and the only cases he had had go wrong were those in which he had irrigated with a return-flow catheter. He had heard of a new method of disinfecting by pumping in air, but it seemed to him an extraordinary thing to do.

Mr. Hughes asked how long after calving was the cow in jeopardy? Personally, he was in favour of douching if cautiously done. With regard to the removal of the placenta, he had found it useful to douche the uterus with an antiseptic during the removal of the placenta. It seemed to encourage the womb to dilate, but afterwards he thought it important to syphon and not leave in any weight of fluid material. The womb itself on contraction would expel the douche voluntarily. Was rupture due to the weight of the fluid or to the act of parturition? He himself had never seen a womb ruptured by douching. He would like to ask Mr. Aston whether he did not think opium was the best sedative?

Mr. Steele-Bodger said he usually injected about a quart and then syphoned out. If too much fluid was injected, there was some danger of injury to the uterus.

Mr. Gooch said, as regarded the removal of the placental membranes, it was his practice never to touch them in a cow for at least ten days. His experience was that more fatal cases resulted from taking them away directly. As for the danger of rupture from the weight of fluid, he contended that if the uterus could bear the weight of the fœtus during the period of gestation, it could bear the weight of whatever fluid was injected. You could rupture anything if enough force was used. He himself used a long tube for irrigation—a six-foot tube. He thought great care was required to ascertain before using the tube whether there was any wound, because fatal cases were generally due to some wound caused in the act of parturition. He never syphoned the fluid he injected.

Mr. Martin remarked that as regards the double-flow catheter, he had used it in forty cases lately, and had had no ill-effects from it. He mentioned the good results he had obtained from the use of Jeyes' Fluid on mares. He always put in a solution of half a gallon, syphoned it out, and put it back a second time and took it out again. One mare that would not stand to the horse and had not bred for years brought twins.

Mr. Pemberton held with Mr. Gooch in the matter of irrigating the uterus. He never touched an animal after parturition for three or four days in the hot weather and for a week in the cool weather. When he had removed the placenta, he irrigated, not with a pump, but with a long tube, and he generally injected about a quart. It seldom happened that a case of his went wrong.

Mr. Maguire had had considerable experience in douching the uterus, and he agreed that care was necessary, especially where there was inflammation or retained placenta. He used a small calibre return flow metal catheter, and the only accident he had was once when the cow jumped. It was very easy to rupture the uterus, and he considered it dangerous to inject a large quantity of fluid and to leave it there to be voluntarily expelled.

Mr. Aston, in reply, said he did not dare contemplate mentioning cases which dealt with retained placentas. It was too complicated a question. These were cases of sterility. As to sedatives, he had had one or two mild cases of uterine colic, and was obliged to give something to keep the cow quiet. It did not alarm him as much as it alarmed the owner, and he gave the sedative to please the owner more than anything else. He could not agree with washing the womb, even with a quart, and leaving the liquid there. It was said to be expelled voluntarily: perhaps half was. A lot of pus and filthy matter was left in, and he considered it dangerous. He preferred to get the placenta away in forty-eight hours at the latest. It was easier than waiting. He would put this question to Mr. Gooch and Mr. Pemberton in regard to their attitude on the subject of retained placenta: Had they ever found out how many cases which they treated in the way they said had answered to the bull a second time? Did a farmer realise that some of his sterility was due to the particular treatment for retained placenta? In the matter of douching, he thought it better to syphon out every drop of fluid that was injected.

Some Historical Notes on the Horse.—The Hon. Secretary, referring to Mr. Brooke's paper under this heading, said it was extremely interesting, but

it hardly called for discussion, as it was a chronicle of facts which no one could dispute. Still, he should like to thank Mr. Brooke for his most interesting contribution.

Mr. F. Chambers' Cases.—Mr. F. CHAMBERS exhibited the leg of the dog with elephantiasis, and Mr. LIVESEY said he had never seen a case with so great an enlargement of the bone. It looked to him as though there was tuberculosis.

Mr. BROOKE enquired whether the condition was local.

Mr. CHAMBERS said he could not trace any tuberculosis in this particular dog, but the owner would not allow him to open for *post-mortem* purposes. It had been a favourite dog, and it was as much as he (Mr. Chambers) could do to get hold of the diseased leg. The condition was purely local, the other bones being in good order.

Mr. H. W. Dawes' Cases.—In the absence, through indisposition, of Mr. H. W. Dawes, the HON. SECRETARY introduced his cases.

Mr. GOOCH, referring to the fracture of the os suffraginis, said it seemed to him to be a case of deferred fracture. The injury must have taken place earlier, and whilst at exercise or at work separation of the bone would occur.

Several other members shared this view and quoted similar cases within their own experience.

Mr. MCINTOSH said cases of fracture were such as town practitioners knew only too well. It frequently happened in horses that were showing apparently a degree of ringbone. Such cases were extremely liable to fracture. He thought that in this case of Mr. Dawes' the fracture took place previously, but displacement might be deferred. It only showed the necessity of dealing very cautiously with cases of acute lameness and keeping the animal quiet for some time. He recalled a case of a horse doing dock work, and in backing a load it went down behind. It got on its feet with difficulty and was brought home apparently all right. The following morning the animal suddenly went lame, could not recover itself, and it had to be destroyed. There proved to be complete fracture of the bone, and there was no doubt the fracture had taken place the previous day. If that animal had stopped work at once and had been put into slings, it would probably have recovered. No matter how simple the case was, he thought it best to rest an animal and give it a chance of recovering.

The HON. SECRETARY said that he thought the previous speakers, in referring to deferred fracture had rather gone away from the subject. The point of interest was that the animal had been slightly lame for a considerable period, extending to eight or nine months, and it was with a view to performing neurectomy that a preliminary injection of cocaine had been given. Owing to the length of time the lameness had existed, the question of deferred fracture would be put out of court. In addition the inflammatory changes present in the bone had no relation to the lines of fracture.

With regard to the case of spasm of the diaphragm, Mr. BROOKE said he saw the animal, and he could confirm all that Mr. H. W. Dawes had told them.

Mr. CONCHIE said he once knew of a case, and he tried injection of morphia, but it did no good. The animal got better itself, but was constantly having a repetition of the trouble.

Mr. BANHAM suggested the same treatment as applied to a human being suffering from hiccoughs.

Mr. CHAMBERS said that in a case of his own he came to the conclusion that there was some irritation in the stomach.

Mr. Robertson's Cases.—Mr. MCINTOSH said the *post-mortem* specimen of ringbone was an excellent one. Provided the joint surface was not involved, it was quite possible to get such an enlargement without getting incapacity for work, although it might be difficult to convince a magistrate that the animal was free from pain.

Hæmorrhagic Septicæmia.—This subject was dealt with both by the President and Mr. Maguire.

Mr. MAGUIRE said that, personally, he found it much more common than was supposed. It was often diagnosed as bracken poisoning.

Unfortunately, it was not possible for Mr. Maguire to exhibit some stained smears of cultures of the *Bacillus bovisepticus*, which he had brought with him, owing to the poor light.

Mr. Gooch's Cases.—Mr. GOOCH'S *post-mortem* specimen of tuberculosis of the bones of the neck of a horse was a remarkable specimen, and he said that the ribs were involved as well as the neck.

Mr. Gooch next described the excision of a large tumour from the vagina of a cow. Most of us, he said, are acquainted with the condition in pregnant animals of a substance appearing at the vulva about the size of a cricket ball and perfectly shiny. Immediately the animal calves the tumour goes back. This particular animal had shown it two or three weeks, and it had become lacerated, protruding from the vulva. The cause of the laceration was a pig trying to eat the tumour as the cow lay down. I removed the ragged material outside the vulva and replaced the tumour, and it kept there for seven or eight days, but then re-appeared. It grew to such an extent that when I took it away it weighed 7½lbs. It was nine inches inside the vulva on the floor of the vagina, and the cervix was six inches in diameter. It was difficult to get at, and I attempted to remove it with an ordinary ecraseur, but a chain ecraseur would not touch it, so I performed a very unsurgical operation. I took a knife, made a cross in the tumour, and with a home-made wire ecraseur I removed the tumour. The animal made an uninterrupted recovery and calved all right, and I had no further trouble.

Mr. Gooch's third case was one of disease of the uterus of a Yorkshire bitch. A *post-mortem* examination showed the uterus full of pus and very diseased. The uterus and its contents weighed 2¾lbs., although the animal altogether only weighed 5½lbs. He attributed death to asphyxia caused by the uterus pressing on the lungs and heart. Previously the

bitch had been mated and had had one pup, and afterwards there was a sanguinous discharge from the uterus.

Mr. LIVESEY said no breed was more susceptible to trouble of this kind than the Yorkshire terrier, and it was more common in maiden bitches, than in those that had had litters. It need not necessarily follow attempts at mating. There was very little discharge except at certain periods, and in some cases enlargement of the uterus remained and attained enormous proportions. The text-book treatment was an operation, but he had had eighteen or twenty cases in which he had not operated. He had had good results by injections and by giving the mucous membrane stimulants and tonics. These cases were generally accompanied by sterility.

Mr. CHAMBERS said he had never seen a case properly cured that was not operated on. He thought in Mr. Gooch's case death was more likely to have been due to septic intoxication.

Interesting case of a Shorthorn Bull.—Mr. TUDOR HUGHES, on behalf of his father, who was unable to attend, read the following notes:—

A valuable shorthorn bull (eighteen months) was purchased at a big price for stock purposes last spring, and served the cows in the usual way (some of them three or four times), but proved unfruitful. As the services became more frequent and the demand upon him increased, signs of discomfort were manifested after each service, viz., stiffness, guarded movements in progression, curling his tail up (like a collie dog) and intermittent straining with slight defæcation. This condition became more pronounced with intermittent appetite and loss of flesh. When the animal was seen on 10th August the foregoing symptoms were noticed, with a temperature 103° F. and pulse normal except during straining. Examination *per rectum* disclosed extreme tenderness of the bladder, especially about the neck, with an enlargement thereon (about the size of a hen's egg, but more elongated). The animal being useless for stock purposes, treatment was directed to relieve his pain, and he was fattened for the butcher. Little progress was made for over six weeks, but ultimately the animal fed well, and was fattened and sold to the butcher, and on *post-mortem* examination proved to be a splendid carcase and normal, with the exception of the region about the neck of the bladder. The latter is produced. There was a cystic enlargement, with milky fluid contents, about the size of a hen's egg. Not a single cow held to him, and he served about twenty three times over.

Strangulation of the Small Gut through the Foramen of Winslow.—The following notes, penned by Mr. J. W. DALE, were read in his absence by the Hon. Secretary.

CASE 1.—*Subject*, aged cavalry trooper.

Symptoms.—General uneasiness of a slight nature. Temperature and breathing normal. Pulse weak. No attempt made to lie down. The horse remained in this same condition for twelve hours. The pulse then became almost imperceptible, and this was followed by increasing general weakness and coma and death eighteen hours after being taken ill. No symptoms of severe pain at any time. No attempt to knock about or get down.

Treatment.—Stimulant.

Post-mortem.—Peritonitis, with a gallon of clear fluid in the abdomen. Small intestines inflated and congested. A piece of small gut about eighteen inches long had passed through the Foramen of Winslow from *right to left*, and had become strangulated. The strangulated piece was in the terminal portion of the small gut, situated about two feet from the ileo-cæcal valve. The head of the pancreas appeared to be infiltrated with the fluid in its connective tissue. There was a small verminous aneurism of the anterior mesenteric artery. Other organs normal.

CASE 2.—*Subject*, aged cavalry trooper.

Symptoms.—Great uneasiness. Blowing and sweating. The horse continually looking at his sides in the epigastric regions (either side impartially). Pulse small and hard. Visible mucous membranes congested. No attempt made to lie down. No change in condition for six hours. After six hours symptoms of internal hæmorrhage appeared suddenly (blanching of mucous membranes, weak pulse, etc.), and the horse began to sink. He died in a state of coma twelve hours after being taken ill. No attempt to knock about or lie down.

Treatment.—Stimulant, with enemata.

Post-mortem.—Peritonitis. The small bowel was at once seen to be lying half on the left side of the abdomen and half on the right. The whole small gut was inflated with gas. The gut lying on the right was in a state of approaching gangrene; that on the left was congested. The posterior half of the small gut—except the last two feet—had passed through the Foramen of Winslow from *left to right*, and had become strangulated. A large hæmorrhage between the folds of the mesentery in the strangulation. No apparent injury to any structures in the neighbourhood of the foramen. Other organs normal.

Notes.—Symptoms of this condition appear to be uneasiness rather than acute pain.

Aneurism in the first case, and possibility of aneurism (rupture of artery) in second case.

The gut in both cases may have passed through the foramen by the process of reverse peristalsis, and have stopped passing only when there was no more terminal gut available to pass (two feet from ileo-cæcal valve).

OTHER INTERESTING SPECIMENS.

Mr. SOMERS, on behalf of Mr. R. P. Holmes produced some interesting *post-mortem* specimens of tuberculosis in its various forms—bacillary necrosis, angioma, antinomycosis, liver fluke, and the common parasitic diseases met with in meat inspection.

Mr. PEMBERTON said he had recently made a *post-mortem* examination of a sow for the Ministry of Agriculture, and the first thing he came across was a cyst (which he now produced) attached to the stomach.

It had grown on the muscles of the abdomen. On opening the cyst he found it full of small bones, in a perfectly clean condition (also produced). They looked like the bones of a rabbit, but the owner said there were no rabbits on the place.

Mr. CORMACK suggested an explanation, and said they might possibly be the remains not of a rabbit but of a fœtus. He once took a number of pigs away from a sow, and she apparently recovered, but died some months later from another cause. He found very similar bones in an equally clean condition in the uterus, proving that he had not got all the pigs away from the sow.

Mr. PEMBERTON agreed that the bones he produced might be those of a fœtus, but they were found nowhere near the uterus.

Mr. SLIPPER exhibited a photo of a cob forty-three years old (vouched for by the owner), and also the genital organs of a sow that was killed because she would not breed. There was a considerable thickening of the vagina.

The HON. SECRETARY exhibited a new type of milk delivery can which, he said, a dairyman in West Bromwich had recently invented. The object was to prevent dirt entering the milk, and instead of opening the can, the milk was pumped out into the customer's basin.

Mr. MCINTOSH said that a friend of his was interested in abnormalities, and would be glad to receive any specimens. They might be addressed to him (Mr. McIntosh).

The Annual Dinner.

Subsequently the annual dinner was held, Mr. FORSYTH presiding and giving the toast of "The King."

Mr. CORMACK proposed "The Royal College of Veterinary Surgeons," and said many of the criticisms levelled against the College were based on ignorance. When one came to understand the true functions of the College and to appreciate its limitations, one was bound to acknowledge that it did much useful work. The profession ought to be grateful to members of the Council for the amount of time they devoted to furthering the interests of the College.

Mr. LIVESEY, as a member of the Council, responded, and said it was true that they tried to do their best for the good of the profession. The Council got through an enormous amount of work and each of the meetings lasted two whole days, from half-past ten in the morning until five or six o'clock in the evening. It had been said of them that they were apathetic, and he believed that charge arose chiefly out of the proceedings of the Registration Committee. It was a pity, in one sense, that the proceedings of the Registration Committee were not published, for then the grumblers would tell a different tale. They investigated many complaints, but unfortunately they were not always supported by sufficient evidence, and they had to be dismissed. It was supposed that on that account the Council were indifferent to the rights and privileges of the profession, but he could assure them that such was not the case. In conclusion, he paid a warm tribute to the services of Mr. Fred Bullock, the Secretary of the Royal College, who, he said, loved his work and laboured unceasingly for the profession generally.

Mr. MCINTOSH proposed "The Midland Counties Veterinary Medical Association," mentioning that it was founded in the year 1866. Judging from the vigour and vitality which the Association displayed to-day, it was safe to say that its management had been in capable and zealous hands. He was struck by the enthusiasm shown by those present, and especially by the number of young men who attended and took an active part in the proceedings. An Association like this did a vast amount of good. It brought men together with the same ambition in life, enabled them to pool their experience, and broke down those barriers of self-interest and exclusiveness that were too apt to spring up among the members of any profession. He was pleased to see the social side of the Association's work so admirably cultivated, and nothing had pleased him more that day than the spirit of comradeship that was everywhere manifest. The success which the Midland Association had achieved was due in no small measure to the efforts of the Secretary. The name Dawes had been prominently associated with the veterinary profession as long as he could remember, and in electing their Secretary to the position of President of the National, an honour which was in every way deserved, had been paid not only to the man himself, but also to the Midlands. He hoped that as many members as possible would attend the Aberdeen Conference this year to support Mr. Dawes and to show their appreciation of what he had done for them.

The PRESIDENT replied to the toast and said that the division owed its pre-eminent position to the labours of Mr. Dawes. He personally was looking forward to attending the Aberdeen Conference out of compliment to Mr. Dawes, and he hoped to be joined by a good many Midland friends.

The HON. SECRETARY also responded to the toast, and said it was pleasant to hear from outsiders that the Midland division was recognised as one of the most influential in the country. Only six men who were members when he first joined remained with them to-day, but as the older ones passed away young men came forward to take their places, which left them no ground for anxiety as to the future. It was most gratifying to the older ones to know that this was so. Reference had been made to his presidency of the National Association. He felt it was the greatest honour that could have been conferred upon him, and he liked to regard it as one in which the Midland Association shared. For that reason he hoped to see the division well represented at Aberdeen. The date of the Conference had not yet been definitely fixed, but it would be the last week in August or the first week in September.

The toast of "The Visitors," submitted in felicitous terms by Mr. F. CHAMBERS, was also honoured, being coupled with the name of Mr. Mason.

H. J. DAWES, *Hon. Secretary.*

Notes and News.

The Editor will be glad to receive items of professional interest in these columns

Diary of Events.

April 3rd—Meeting of the Central Division at 10 Red Lion Square.

„ 8th—N.V.M.A. Committee Meetings.

„ 9th—N.V.M.A. Council and Committee Meetings.

„ 10th and 11th—R.C.V.S. Council Meetings.

We very much regret to hear of the serious illness of Major Percy Simpson, which, we understand, necessitated an operation at the beginning of this week. We sincerely hope that he will make a good recovery and once more regain his usual good health.

* * * *

We have had a better response to our appeal on behalf of the students during the week. In nearly every case, however, practitioners are asking for a payment, often amounting to two guineas a week, for taking students to board and see practice. This is fair enough for those students who wish to go out as pupils and have to be taught the rudiments of practice, but it is rather much to expect from final year's men. The Class D man, if he has been out in practice for two or three years, should be worth his board and lodging at least, and probably deserves a little pocket money as well. We know of several anxious for places.

* * * *

Our President, Mr. H. Dawes, has been suffering for some time from influenza. He had nearly recovered from one attack when he either had a relapse or a fresh infection at the time of his visit to the North of England Division at Darlington. This has kept him either in bed or confined to the house for a fortnight, but we are glad to learn that he is now very much better, and almost ready to renew his practice of visiting each division in turn. It is really very good of him to throw such energy into his duties, and he sets us all a very fine example.

* * * *

How will the latest step on the part of the London County Council affect veterinary surgeons practising in the metropolis? We understand that a proposal is on foot to eliminate all horse traffic from the streets of London. Such a project may be necessary so far as the main thoroughfares are concerned during the busy hours of the day; but on other roads, side streets, and especially in the areas near the docks and wharves, the horse is still supreme as a means of transport. We have no doubt horse owners, cartage contractors, and veterinary surgeons will have something to say on this matter, and they should lose no time in saying it.

* * * *

The N.V.M.A. Council and Committee Meetings will be held on Tuesday and Wednesday, April 8th and 9th, and we hope that all those who have places on these bodies will try and make it convenient to attend in London on those days. It is very necessary that our Council should truly represent all parts of the country and all shades of opinion, and this can only be so if elected members attend the meetings and take their share of responsibility.

Notts F.U., in passing a resolution against the importation of Irish cattle, declares that out of forty outbreaks of foot-and-mouth disease in the county ten were traceable to imported cattle.

The Royal College of Veterinary Surgeons.

Obituary.

Kinnell, Geo. N., Pittsfield, Mass., U.S.A. Graduated Edinburgh, 24th April, 1885. Died 16th January, 1924.

Pender, Andrew, Lockerbie, Dumfriesshire. Graduated Edinburgh, 16th June, 1880. Died 21st March, 1924. Aged 85 years.

Personal.

J. Malcolm Armfield, Esq., M.R.C.V.S., D.V.O., Veterinary Department, Dar-es-Salaam, Tanganyika, arrived on leave on the S.S. Mantola at Tilbury on Saturday last.

In the eleven weeks ending 16th March there were 1,071 outbreaks of foot-and-mouth disease in Great Britain, the numbers of outbreaks in the successive weeks, beginning with the week ending 5th January, being respectively:—5th January, 253; 12th, 184; 19th, 113; 26th, 46; 3rd February, 59; 10th, 63; 17th, 56; 24th, 78; 2nd March, 99; 9th, 62; 16th, 58; total, 1,071. Since the present series of outbreaks began in August, 180,832 animals have been slaughtered, comprising 98,009 cattle, 37,562 sheep, 45,141 pigs, and 120 goats. The total amount of compensation is estimated at £3,134,000, and the amount realised from the salvage of healthy animals £443,200.

Dairy cattle in the Irish Free State have declined by 45,000 head during the past twelve months, while calves have decreased by 21,000. All told, the cattle population of the State is 167,000 head fewer than it was a year ago. Ewes and lambs are also reduced in numbers, but pigs have increased some 30 per cent. These changes in cattle and sheep are in the opposite direction to those in Great Britain.

Correspondence.

Letters to the Editor should reach the Office not later than by the first post on Tuesday morning for insertion in following Saturday's issue.

All correspondence must bear the name and address of the contributor for publication.

The Editor does not hold himself responsible for the opinions of his correspondents.

Foot-and-Mouth Disease Susceptibility.

To the Editor of the Veterinary Record.

Sir,—Lieut.-Col. H. A. Reid observes in his paper on foot-and-mouth disease that he would like to hear of any infection of animals other than those he mentions.

In 1919 I was stationed at Surafend, in Palestine, in command of an Indian Mobile Veterinary Section. The Syces had a lot of rabbits as pets. These all became infected with typical lesions of foot-and-mouth disease. The lesions were in the mouth and between the digits. Those that were not destroyed all died in a few days. Two rabbits which they gave me, and which I gave to some officers' children, about a mile away, also developed infection about a fortnight after they were separated from the original lot, and were destroyed. The children, who were attached to their pets, and were always playing with them, were not infected.—I remain, sir, faithfully yours, Bernard H. Benson.

81 High Street, Tewkesbury.

15*th March*, 1924.

An Ovine Conundrum.

To the Editor of the Veterinary Record.

Sir,—Perhaps some of my fellow members of the "National" could enlighten me regarding the following case. A Cotswold farmer possesses sheep of two breeds, namely:—160 Oxfords and 30 Kerries. All are kept under exactly similar conditions, but in different fields.

For purposes of lambing he erected his lambing pens in the larger field, where the Oxfords are, and brought up ten of the Kerries to lamb there. The two breeds agreed perfectly well together, but within forty-eight hours five of the Kerries showed symptoms of dizziness, would not eat, and two died. Since my visit another has died.

Perhaps less attention would have been paid to these occurrences but for the fact that exactly the same thing happened two years ago, when the owner had Kerries.

Since then the remaining Kerries have been left in their original field, and are quite well.

A *post-mortem* did not satisfy me as to the cause of the condition. There was fatty degeneration of the liver and kidneys.

Perhaps some reader with experience of sheep may recognise the condition. If so, both the owner of the sheep and myself would be grateful.—Yours faithfully, A. C. Duncan, F.R.C.V.S., Cirencester.

19*th March*, 1924.

Wales and Veterinary Study.

To the Editor of the Veterinary Record.

Sir,—I note in last week's *Record* the item *re* the difficulties of new graduates in settling down, so I am enclosing an article from *The Western Mail*—advocating increased opportunity for freshmen. The statements in regard to colleges are inaccurate.—Yours faithfully, W. E. Edwards.

83 Windsor Road, Neath, Glam.

11*th March*, 1924.

The article from the medical correspondent of *The Western Mail* to which Mr. Edwards refers is as follows:—

"Wales in the matter of educational facilities is well to the fore, and Welsh boys and girls nowadays may be adequately equipped in their homeland for most of the walks of life, including teaching, medicine, law, metallurgy, and engineering. There is, however, one branch of science still untouched. I refer to veterinary surgery. Before any steps are taken, however, it is well for us to consider exactly what sort of a demand exists for facilities of this sort.

"How many students are likely to take up the study for the sake of a livelihood? In trying to estimate the number one must realise that although the course is nearly as long and as expensive as the medical, yet the returns are far less if they be reckoned in money or social position.

"At present there are only two veterinary colleges, one in London and the other in Edinburgh, but several of the universities grant degrees in veterinary surgery to those of their students who have first of all passed the examinations for the M.R.C.V.S. at either of the two colleges.

"Should the Welsh University follow the example of those few universities which grant degrees? This can be done at very little additional expense if the first two years' subjects be taught in connection with the Welsh Medical School before the students go to the London College to complete their two years of practical surgery."

Meat Inspection and Cowsheds and Dairies Orders.

To the Editor of the Veterinary Record.

Sir,—Would all veterinary surgeons who are engaged in the above duties as part-time officials join together to form a body that would watch over their interests?

There is evidence that, in the very near future, the Ministry of Health will be actively pushing local authorities who have hitherto failed to carry out efficient inspection to appoint qualified inspectors. The Ministry of Health have already issued a circular letter and memo. on the subject of Meat Inspection, and in this it is pointed out that local authorities may combine in making such appointments.

Unless our profession watch the position carefully, we may find that the inspectors appointed will be Sanitary Inspectors holding the Sanitary Institute Meat Inspection Certificate.

I would therefore suggest, Sir, that all part-time officials should be asked by you to send, to your office, their names and the general terms of their appointment, showing the population and area of their district.

As Secretary of the National Veterinary Medical Association you would have this as a register, and you would be able to give a great deal of help when such appointments are made, or to those who have already been appointed.

Nearly all local authorities ask for information as to what is being done, or what has been done, elsewhere, and it is a great help if it can be shown that members of our profession do hold these appointments and where.

Instances are frequent enough where Medical Officers of Health and Sanitary Inspectors are trying to obtain complete control of this work to our practical exclusion.

These appointments are coming along, and it is earnestly urged upon every part-time official to send his name to you at once.—Yours faithfully, J. Campbell Hill.

Murray Street, Llanelly.

21*st March*, 1924.

[The points raised in this letter will be considered by the Public Health and Veterinary Inspectors' Committee of this Association, but meanwhile the General Secretary would be grateful if part-time inspectors would send to him at once the terms of their appointment, and also the population and the area of their district, as the information is wanted immediately.—Ed.]

The Editor begs to acknowledge the receipt of the following:—

Communications from Messrs. H. Geary, T. H. Hobson, H. Kirk, and L. P. Pugh.